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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/866,145

05/25/2001

Richard Alan Haase

4449

7590  
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03/20/2009

EXAMINER

BARRY, CHESTER T

ART UNIT

PAPER NUMBER

1797

MAIL DATE

DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 09/866,145	<b>Applicant(s)</b> HAASE, RICHARD ALAN	
	<b>Examiner</b> CHESTER T. BARRY	<b>Art Unit</b> 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 September 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 – 13, 15-20, 39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 – 13, 15-20, 39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>9/17/08</u> .   | 6) <input type="checkbox"/> Other: _____                          |

Claims 1 – 13, 15-20, 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stover in view of Haase '435.

USP 6660164 to Stover describes adding ferric chloride 146, 22, 28 (col 8 line 36) to an autothermal aerobic thermophilic digestion process 10. Thereafter, the thermophilic sludge 138 is dewatered (col 10 line 50). Stover does not describe adding cationic or anionic polyacrylamide to the sludge.

USP 5846435 to Haase describes dewatering a sludge from a thermophilic aerobic digestion process. The process involves *inter alia* adding a cationic or anionic polyacrylamide to the sludge.

It would have been obvious to have dewatered Stover's aerobic thermophilic sludge using Haase's process for dewatering aerobic thermophilic sludge because Haase recognized the difficulty in dewatering thermophilic sludge and solved it using a combination of conditioners.

With respect to the numeric ranges or property values recited in the claims but not specifically addressed in the rejection above, the claimed limitations would have been obvious in view of the recognition in the art that the property, parameter, or limitation is a known result-effective parameter, the optimization of which would have been obvious with no more than routine experimentation.

Claims 1 – 13, 15-20, 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Stover or Haase '435 in view of Field.

US 5954964 to Nielsen describes dewatering a thermophilic sludge with a low MW polymer and a high MW polymer, but does not describe using an inorganic coagulant like aluminum sulfate or ferric chloride in place of, or in addition to, the low MW polymer.

USP 5846435 to Haase describes dewatering a sludge from a thermophilic aerobic digestion process. The process involves *inter alia* adding a cationic or anionic polyacrylamide to the sludge.

USP 4043910 to Field facilitates the removal of phosphates from wastewater using both an inorganic coagulant, e.g., ferric chloride, and a cationic polyelectrolyte, e.g., polyacrylamide.

It would have been obvious to have used ferric chloride in combination with either Haase's or Nielsen's low molecular weight polyacrylamide in order to improve removal of phosphorus from Haase's sludge, as suggested by Field.

With respect to the numeric ranges or property values recited in the claims but not specifically addressed in the rejection above, the claimed limitations would have been obvious in view of the recognition in the art that the property, parameter, or limitation is a known result-effective parameter, the optimization of which would have been obvious with no more than routine experimentation.

The following art is cited of interest:

USP 5529699 to Kuo states that combinations of inorganic coagulants, e.g., ferric chloride, and high molecular weight polyacrylamide have often been used to flocculate municipal sludge.

Art Unit: 1797

Polymeric organic coagulants such as cationic polyamines and high molecular weight polyacrylamides have been used to aid in flocculation and are often used in combination with inorganic coagulants such as lime, alum, ferric chloride, ferrous sulfate, ferric sulfate and sodium aluminate. 30

USP 4183807 to Yoshizawa describes coagulating a wastewater rich in polysaccharide-assimilating yeasts using a combination of ferric chloride and polyacrylamide.

USP 4246099 to Gould is cited for its discussion of thermophilic aerobic digestion.

USP 4559146 to Roets describes dewatering a sludge with aluminum sulfate or ferric chloride followed by polyacrylamide. Sludge is not described as thermophilic.

USP 4132638 is cited for aerobic thermophilic digestion and dewateres the sludge using what appears to be dissolved air flotation. The patent does not describe dewatering using an inorganic coagulant and an ionic polyacrylamide.

Applicant's arguments filed 9/17/08 were carefully considered, but deemed moot in light of the new grounds of rejection.

Please file another Supplemental Reissue Oath if any additional amendments to the application are made in the future.

/Chester T. Barry/  
Primary Examiner, Art Unit 1797  
571-272-1152